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Remarks

Reconsideration of rejected claims 1-14 is respectfully requested.

In the Office action dated April 6, 2005 (application Paper No. not shown), the Examiner objected to certain ones of the claims and rejected claims 1-5, 7-9 and 12 under 35 USC § 102(b). Remaining claims 6, 10-11 and 13-14 were cited as "objected to" as depending from rejected base claims. The Examiner's objections and rejections will be discussed below in the order appearing in the Office action.

Claim Objections

The Examiner first objected to claims 1, 11, 12 and 14 as lacking proper antecedent basis for the phrase "the minimum grid". As suggested by the Examiner, applicants have amended these claims to read --a minimum grid--. With this amendment, applicants believe that claims 1, 11, 12 and 14 now fully comply with all patent claim requirements.

35 USC § 102(b) Rejection - Claims 1-5, 7-9 and 12

Claims 1-5, 7-9 and 12 were first rejected by the Examiner under 35 USC 102(b) as being anticipated by US Patent 6,269,472 (Garza et al.). With respect to independent claims 1 and 12, the Examiner stated that Garza et al. teach "a method and apparatus for correcting a layout design using design rule checkers. The layout design is defined for non-Manhattan elements using a Manhattan grid system".

Applicants cannot agree with the Examiner's characterization of Garza et al., or with the conclusion that Garza et al. anticipates the subject matter of independent claims 1 and 12 (as well as dependent claims 2-5 and 7-9). As discussed in the cited reference, Garza et al. relates to a system for *correcting* the feature dimensions in a photolithography system, where the resolution associated with the illumination source has been found to result in producing fringe effects in the exposed photoresist. Thus, the "layout design" is corrected "using design rule checkers". There is no discussion or suggestion in Garza et al. related to a layout of "non-Manhattan" elements, which is the

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subject matter of the present invention. Applicants have amended the pending claims to further define the non-Manhattan elements as including "curved shapes" -- the elements in Garza et al. all exhibit the traditional rectangular shape.

The Examiner refers to FIG. 8C as illustrating "in grid dimension, vertex of each of the features (polygons) is lying on the grid dimension where a minimum spacing between adjacent vertices of a polygon is defined as distance between a pair of selected grid points". The Examiner is confusing applicants' use of the terms "features" and "polygons" - the "polygons" in the present invention are used to provide a best-fit to a non-Manhattan shaped (curved) element (see, for example, FIG. 5 which illustrates a plurality of polygons 30 used to "fit" to a curve 32 (curve 32 being defined as the non-Manhattan "feature" itself). In contrast, FIG. 8C of Garza et al. is a plot of the corrections (due to optical aberrations) generated by their design rule checker. The "curve" in FIG. 8C is a plot, not a curved shape for which it is desired to provide a layout using conventional design tools.

In fact, the terms "Manhattan" and "non-Manhattan" are not used in the specification of Garza et al. In applicants' specification, such as at paragraph [0021], these terms are defined as follows:

FIG. 2.. showing a layout of both Manhattan geometries (typically associated with electronic components) and non-Manhattan geometries (typically associated with optical components). Electronic components 6 all comprise Manhattan geometries, exhibiting straight lines interconnected by angles of either 90° or 45°. In contrast, the non-Manhattan geometries of components 8 are seen to exhibit curved shapes (including circular), various angles of connection, and tapered components. These various non-Manhattan geometries may be associated with conventional optical components such as an optical grating, concave mirror, taper, lens, ring resonator and Mach-Zehnder interferometer.

Applicants assert that within any discussion or description of a method for laying out "curved shapes" (i.e., non-Manhattan shaped elements) using a grid system (Manhattan), the cited Garza et al. reference cannot be found to anticipate the subject matter of the present invention.

Applicants thus respectfully request the Examiner to reconsider this rejection and find amended claims 1-5, 7-9 and 12 to now be in condition for allowance.

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Allowable Subject Matter

The Examiner has cited claims 6, 10, 11 and 14 as containing "allowable" subject matter, but depending from a rejected base claim. Based on the applicants' above-defined amendments and asserts, applicants assert that claims 6, 10, 11 and 14 are allowable in their present, dependent form.

Applicants believe that the case is now in condition for allowance. Applicants therefore respectfully request the Examiner to reconsider the various rejections and find the case in condition for allowance. If for some reason or other the Examiner does not agree that the case is ready to issue, and that a telephone call or conference would further the prosecution, the Examiner is invited to contact applicants' attorney at the telephone number listed below.

Respectfully submitted,

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